

AMENDMENTS TO THE SPECIFICATION

Please amend the paragraph beginning on page 2, line 3 (corresponding to paragraph [0007] as published) as follows:

In order to fulfill its function as a good heat-sealing agent, a resin should have a low seal initiation temperature ("SIT"). Also, as much material as possible should remain unmelted at higher temperatures in order to ensure dimensional integrity of the sealing layer on the substrate layer during processing. Furthermore, the presence of [[high levels of]] low molecular weight, amorphous material soluble in or extractable by organic solvents such as xylene and hexane, respectively, should not be too high in order to prevent contamination of food. Furthermore, the melt flow rate (MFR) of a sealing layer composition must not exceed a critical value. Otherwise, it cannot be processed to a film or a layer in a bi- or multi-layer film. Finally, the stiffness of a sealing layer composition, usually expressed in terms of the E-modulus, should be as high as possible in order to provide the film with mechanical strength.

Please amend the paragraph beginning on page 4, line 8 (corresponding to paragraph [0018] as published) as follows:

While the vast majority of sealing layer compositions is based on ZN catalysts, some compositions have been described that are based on metallocene catalysts. In order to simplify the description, the terms "produced by using

metallocene catalysts" or "based on metallocene catalysts" will in the following be represented by the term "metallocene based". For a good metallocene based sealing layer composition, the same principles apply as for a ZN based composition: the mutual exclusive requirements of low SIT and large amounts of unmelted material at high temperatures can only be optimized by producing blends of two or more random copolymers. It is known in the art that metallocene based copolymers contain lower levels of solubles than their ZN based analogs. Nonetheless, [[Nonetheless,]] the introduction of amorphous, low molecular weight fractions into state-of-the-art metallocene based sealing layer compositions comprised of two or more components has been inevitable and is still too high with regard to food packaging applications.

Please amend the paragraph beginning on page 5, line 22 (corresponding to paragraph [0025] as published) as follows:

The composition of the invention provides a better balance of SIT, level of solubles and mechanical properties compared to prior art. Furthermore, only up to 40 wt % of the lower crystallinity material has to be produced in a second polymerization reactor or step. On top of that, the amount of comonomer that has to be incorporated into the low crystallinity fraction of the composition[[,]] is significantly lower than in prior art of comparable SIT. This is a significant improvement for the vertically stirred gas phase process where production of compositions with properties of the invention was not possible yet. A further

significant advantage is the nature of the solubles: whereas in prior art the solubles were of low molar mass, the solubles of the invention are high molecular weight. This means that at relatively high levels of xylene solubles, the food relevant FDA hexane extractables are extraordinary low. Another advantage of the present invention is the fact that its compositions comprise ultra low crystallinity fractions not present in prior art compositions. These ultra low crystallinity compositions provide excellent heat-sealing behavior.

Please amend the paragraph beginning on page 6, line 3 (corresponding to paragraph [0026] as published) as follows:

Compared to EP 263 718-B1, the levels of xylene solubles and hexane extractables of the compositions of the present invention are lower. Compared to the compositions disclosed in EP 483 523-B1, the levels of hexane extractables of the compositions of the present invention are lower. Furthermore, whereas in the compositions of EP 483 523-B1 between 35 and 70 wt % of low crystallinity component are required, in the compositions of the present invention the amount of low melting material is between only 5 and 40 wt %. The amount of low crystallinity material required in the composition of the present invention is less compared to EP 560 326-B1 and EP 674 991-B1 where between 40 and 80 wt % of low crystallinity material are required. Furthermore, compared to the compositions of EP 560 326-B1, the balance between the SIT and the level of extractables is better in the present invention, and compared to EP 674 991-B1,

the levels of extractables and the SITs are lower in the compositions of the present invention. Compared to WO 00/11076, where between 20 and 80 wt % of the low crystalline component need to be present and, where in addition a peroxidic degradation step has to be employed in order to yield low extractables and SIT values, in the compositions of the present invention the amount of low melting material is maximum 40 wt % and no peroxidic degradation step is required. This facilitates the production of the composition of the present invention tremendously. Furthermore, the compositions of the present invention exhibit lower levels of extractables than the ~~compositions-compositens~~ disclosed in WO 00/11076. Compared to EP 780 432-B1, the amount of comonomer that has to be incorporated into the ~~random-radnom~~ copolymer produced in the first reactor is significantly lower in the present invention. Thus, production problems like reactor fouling are much less likely. Furthermore, in the compositions of the present invention, the SIT values are significantly lower at same or lower amount of solubles. Compared to random copolymers disclosed in EP 881 239-B1 and WO98/58971, the SIT of the present invention is significantly lower at same or lower level of extractables. Compared to WO 02/44251, SIT and level of extractables are much lower in the present invention, at similar film stiffness. Compared to EP 982 328-B1, the compositions provided in the present invention can be used as the sole component of a sealing layer in a mono-, bi- or multi-layer cast or biaxially oriented film due to their low-enough MFR and lower levels of extractables.

Please amend the paragraph beginning on the last line of page 6 (corresponding to paragraph [0027] as published) as follows:

The invention relates to copolymer compositions of propylene random copolymers with at least one more C₂-C₂₀- α -olefin other than propylene which is particularly suited, inter alia, for the manufacture of films or film layers using any film-making process, particularly processes for making cast film and biaxially oriented film. The films or film layers of the present invention exhibit very low proportion of extractables, very low seal initiation temperature, and a good balance of stiffness, toughness and transparency. Polymer films used for packaging and wrapping (particularly in the food industry) are generally multilayered having, for example, a polypropylene (homopolymer or copolymer) layer and at least one sealing layer. The blend of polypropylene copolymers disclosed herein is advantageously employed as a sealing layer for such films. For the purpose of the present invention, non-propylene C₂-C₂₀- α -olefins are ethylene or linear or branched α -olefins that have from 4 to 20 carbon atoms. Preference [[Preference]] is given to ethylene and linear α -olefins. Particular, but non-limiting examples are ethylene, 1-butene, 1-pentene, 1-hexene, 4-methyl-1-pentene and 1-octene. The copolymer composition consists of from about 60 weight percent to about 95 weight percent of a first random copolymer of propylene and at least one non-propylene C₂-C₂₀- α -olefin and of about 5 weight

percent to about 40 weight percent of a second random copolymer of propylene and at least one non-propylene C₂-C₂₀- α -olefin.

Please amend the last paragraph on page 11 (corresponding to paragraph [0043] as published) as follows:

Yet another embodiment of the present invention ~~of the invention~~ relates to a process for the polymerization of the compositions of the present invention. For the purposes of the present invention, the term "polymerization" ~~"polymerization"~~ refers to both homopolymerization and copolymerization.

Please amend the paragraph beginning on page 15, line 17 (corresponding to paragraph [0063] as published) as follows:

Most preferably, R⁴ and also R^{4'} are hydrogen, R⁵, R⁶, R⁷, R⁸ and also R^{5'}, R^{6'}, R^{7'}, R^{8'} are identical or different and are each a hydrogen atom or a linear, cyclic or branched alkyl group of from 1 to about 10 carbon atoms, or a substituted or unsubstituted aryl group of from 6 to about 40 carbon atoms and/or the two adjacent radicals R⁵, R⁶ and R^{5'}, R^{6'} respectively together may form a ring system or R⁵, R⁶ may form a ring system and R^{5'} is a substituted or unsubstituted aryl group of from 6 to 40 carbon atoms, such as phenyl, p-isopropyl-phenyl, p-tert-butyl-phenyl, p-sec-butyl-phenyl, p-cyclohexyl-phenyl [[p-cyclohexyl-phenyl]], p-trimethylsilyl-phenyl, p-adamantyl-phenyl, p-(CF₃)-phenyl, m,m'-dimethyl-phenyl, naphthyl[[naphthyl]], or R^{5'}, R^{6'} may form a ring system and R⁵

is a substituted or unsubstituted aryl group of from 6 to 40 carbon atoms, such as phenyl, p-isopropyl-phenyl, p-tert-butyl-phenyl, p-sec-butyl-phenyl, p-cyclohexyl-phenyl [[p-cyclehexyl-phenyl]], p-trimethylsilyl-phenyl, p-adamantyl-phenyl, p-(CF₃)-phenyl, m,m'-dimethyl-phenyl, naphthyl[[naphtyl]], or R⁵ and R^{5'} are identical or different and are each a substituted or unsubstituted aryl group of from 6 to 40 carbon atoms, such as phenyl, p-isopropyl-phenyl, p-tert-butyl-phenyl, p-sec-butyl-phenyl, p-cyclohexyl-phenyl [[p-cyclehexyl-phenyl]] p-trimethylsilyl-phenyl, p-adamantyl-phenyl, p-(CF₃)-phenyl, m,m'-dimethyl-phenyl, naphthyl[[naphtyl]].

Please amend the paragraph beginning on page 21, line 2 (corresponding to paragraph [0111] as published) as follows:

For example, it is possible to polymerize two or more starting polymers separately, then to mix these by using suitable mixing equipment, such as screw extruders or diskpack plasticators, kneaders or roll mills. However, it is preferable for the propylene polymer compositions not to be polymerized separately. One preferred method is to carry out polymerization in [[in]] the presence of a suitable catalyst in a series of different reactors, for example in a reactor cascade with at least two different reactors, with conditions in the reactors sufficiently different to give the final composition desired. Particularly preferred is a process that uses a reactor cascade of two reactors, wherein the polymerizations in both reactors are carried out in the gas phase.